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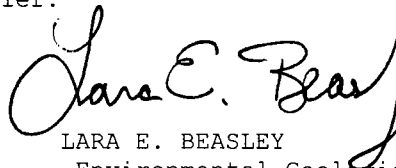
CESPA-EC-G

17 June 2005

MEMORANDUM FOR: RECORD

SUBJECT: Trip Report for Quality Assurance Review of Scoring Tables for the Navajo Nation Abandoned Uranium Mine Screening Assessment Study

1. Lara Beasley and Brian Jordan of HTRW Branch, Albuquerque District arrived at the offices of TerraSpectra Geomatics in Las Vegas, Nevada on 08 June 2005 and met with Elaine Ezra and Dave Brickley.
2. Ms. Beasley and Mr. Jordan completed a review of 66 mine sites on 08 and 09 June 2005 with assistance from Mr. Brickley in operation of the GIS database. The matrix detailing site selection and review criteria can be found as Attachment 1 of this trip report.
3. The review of the 66 sites revealed one item of interest and one item requiring correction.
  - Item of interest: On two occasions two or more wells were found to have the exact same GIS location in the database. Further review showed evidence in the database that these wells (counted as individual wells for mine scoring) were in fact different wells due to data in the database showing different depths for the wells. A discussion between Mr. Jordan, Ms. Beasley, Ms. Ezra and Mr. Brickley concluded that for scoring conservatism and different depths of the wells in the references, these wells did not necessarily warrant "merging" these wells into one, although the well location may not be wholly accurate.
  - Item requiring correction: On one occasion information in the database referencing an increase in polygon size after a conversation with Melvin Yazzie indicated the presence of debris piles was not cited in the database although the size increase was evident by looking at the polygon. Mr. Brickley informed Mr. Jordan and Ms. Beasley that this would be corrected and the database would be checked to ensure all sites that were increased in size for this reason included this reference.
4. A form documenting the review of each of the 66 sites chosen was filled out electronically and printed and signed by Mr. Jordan and Ms. Beasley. These forms can be found as Attachment 2 of this trip report.
5. Documentation was reviewed that enabled the tracking of all information in the GIS database back to original source documents, including DOE and EPA documents and AML field reports. This information tracking was accomplished within the GIS system through the use of the TerraSpectra S-key identifier.



LARA E. BEASLEY  
Environmental Geologist  
HTRW Branch, Albuquerque District

**Attachment 1**  
**Navajo Abandoned Uranium Mine Nationwide Mine**  
**Ranking Quality Assurance Matrix**

QA Property Selection Criteria

- Determined the upper twentieth percentile of sites by score (> 850).
- Selected at a minimum twenty percent of those mine locations above a score of 850 and at least one location from every chapter represented in the top twentieth percentile.
- The remaining locations selected for QA were determined from those properties with a score less than 850 and at a minimum one location from every chapter.
- A total of 66 properties were selected for QA review, which represents 12.7% of the total mine locations.

QA Areas of Review

- Mine Information: Verify the relationship between Mine ID, Source ID, Mine Name, Easting coordinates, Northing coordinates, Chapter and combined score.
- Polygon Location: Verify documentation for mine polygon is present and sufficiently justifies polygon extent and includes all known mine features.
- Buffers: Verify buffers have been placed at appropriate evaluation distances.
- Surface Water: Verify presence of any surface water feature within one-mile (overland) of mine drainage.
- Structures: Verify locations and documentation of all structures associated with the buffers for mine polygon. Count number of structures within mine polygon and 200-foot, ¼-mile, and 1-mile buffers.
- Wells: Verify locations and documentation of all wells associated with the buffers for mine polygon. Count number of wells within mine polygon and ¼-mile, 1-mile and 4-mile buffers.
- Score: Calculate score based on above information and verify score presented.

Attachment 2  
Quality Assurance Forms

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 163

Source ID NA-0114AAB

Mine Name

Easting 460749.958392

Northing 3975585.79642

Chapter1 Bodaway/Gap

Combined Score 270

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.



Confirm appropriate buffers have been drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile Overland of a Surface Water

☐

QA



Surface Water Score 160

## Structures Count QA

Structures on Mine

☐

QA



Structures within 200'

☐


Structures within 1/4 mile

☐

0



Structures within 1 mile

☐

0



Total Structures

☐

0

Wells on Mine

☐

Wells within 1/4 mile

☐

Wells within 1 mile

☐

0

4 Mile Wells Count

☐

11

Total Wells

☐

11

QA of Well Count Information

☐


QA officers

*Brian Jordan*

Brian Jordan Date

*Lara Beasley*

Lara Beasley Date

8-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter   
 Chapter 1   
 Combined Score

Score QA



Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features.



Confirm appropriate buffers have been  
drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile  QA  
 Overland of a Surface Water ☒  
 Surface Water Score

## Structures Count QA

Structures on Mine  QA  
 Structures within 200'  QA  
 Structures within 1/4 mile  QA  
 Structures within 1 mile  QA  
 Total Structures

Wells on Mine   
 Wells within 1/4 mile   
 Wells within 1 mile   
 4 Mile Wells Count   
 Total Wells

QA of Well Count  
Information ☒

QA officers

*Brian Jordan* *8 Jun 2005*  
 Brian Jordan Date

*Lara Beasley* *8 Jun 05*  
 Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter   
 Combined Score

Score QA



Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water  QA ☒  
 Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒  
 Structures within 200'  ☒  
 Structures within 1/4 mile  ☒  
 Structures within 1 mile  ☒  
 Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

8-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 124

Source ID NA-0129

Mine Name Charles Huskon No. 1

Easting 464642.400593

Northing 3970419.98176

Chapter1 Coalmine Canyon

Combined Score 1680

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine ☒ QA

Structures within 200' ☒

Structures within 1/4 mile 0 ☒

Structures within 1 mile 60 ☒

Total Structures 60

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 3

4 Mile Wells Count 17

Total Wells 20

QA of Well Count Information ☒

QA officers

*Brian Jordan*

Brian Jordan Date

*Lara Beasley* 8-Jun-05

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter1

Combined Score

Score QA



Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.



Confirm appropriate buffers have been drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile Overland of a Surface Water:

Yes

QA



Surface Water Score

160

## Structures Count QA

Structures on Mine

QA ☒

Structures within 200'

☒

Structures within 1/4 mile

0 ☒

Structures within 1 mile

44 ☒

Total Structures

44

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

2

4 Mile Wells Count

18

Total Wells

20

QA of Well Count Information

☒

QA officers

Brian Jordan

Date

Lara Beasley

Date

8-Jun-05



# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter   
 Combined Score

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile  QA ☒  
 Overland of a Surface Water ☒  
 Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒  
 Structures within 200'  ☒  
 Structures within 1/4 mile  ☒  
 Structures within 1 mile  ☒  
 Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count  
Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter   
 Combined Score

Score QA



Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water

Yes

QA



Surface Water Score

## Structures Count QA

Structures on Mine

QA



Structures within 200'



Structures within 1/4 mile



Structures within 1 mile



Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information



QA officers



Brian Jordan Date



Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 456

Source ID Cam068b

Mine Name

Easting 470449.431661

Northing 3956208.0687

Chapter1 NA

Combined Score 180

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine QA ☒

Structures within 200' ☒

Structures within 1/4 mile 0 ☒

Structures within 1 mile 0 ☒

Total Structures 0

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 0

4 Mile Wells Count 2

Total Wells 2

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

8-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter

Combined Score

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water

Yes

QA

☒

Surface Water Score

160

## Structures Count QA

Structures on Mine

2

QA

☒

Structures within 200'

☒

Structures within 1/4 mile

0

☒

Structures within 1 mile

1

☒

Total Structures

3

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

0

4 Mile Wells Count

4

Total Wells

4

QA of Well Count Information

☒

QA officers

Brian Jordan

Date

Lara Beasley

Date

8-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
Source ID   
Mine Name   
Easting   
Northing   
Chapter   
Combined Score

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water  QA ☒  
Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒  
Structures within 200'  ☒  
Structures within 1/4 mile  ☒  
Structures within 1 mile  ☒  
Total Structures

## Wells on Mine

Wells within 1/4 mile   
Wells within 1 mile   
4 Mile Wells Count   
Total Wells   
QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter  Teesto

Combined Score  Score QA ☒

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water  QA ☒

Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒

Structures within 200'  ☒

Structures within 1/4 mile  ☒

Structures within 1 mile  ☒

Total Structures

## Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

8-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter1   
 Combined Score

Score QA ☒

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  QA ☒  
 Overland of a Surface Water ☒  
 Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒  
 Structures within 200'  ☒  
 Structures within 1/4 mile  ☒  
 Structures within 1 mile  ☒  
 Total Structures

## Wells on Mine

Wells within 1/4 mile   
 Wells within 1 mile   
 4 Mile Wells Count   
 Total Wells

QA of Well Count  
Information ☒

QA officers

  
 Brian Jordan Date

 8-Jun-05  
 Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
Source ID   
Mine Name   
Easting   
Northing   
Chapter   
Combined Score

Score QA



Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.



Confirm appropriate buffers have been drawn for evaluation criteria.



## Surface Water QA

Mine Within One Mile Overland of a Surface Water  QA ☒  
Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒  
Structures within 200'  ☒  
Structures within 1/4 mile  ☒  
Structures within 1 mile  ☒  
Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile


4 Mile Wells Count

Total Wells


QA of Well Count Information



QA officers

 8 Jan 2005

Brian Jordan Date

 8 June 05

Lara Beasley Date



# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter   
 Combined Score

Score QA



Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features.



Confirm appropriate buffers have been  
drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water

Yes

QA



Surface Water Score

160

## Structures Count QA

Structures on Mine

QA



Structures within 200'



Structures within 1/4 mile

2



Structures within 1 mile

27



Total Structures

29

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

2

4 Mile Wells Count

34

Total Wells

36

QA of Well Count  
Information



QA officers

*Brian Jordan* *8-Jun-05*

Brian Jordan

Date

*Lara Beasley* *8-Jun-05*

Lara Beasley

Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter 1

Combined Score

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water  QA ☒

Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒

Structures within 200'  ☒

Structures within 1/4 mile  ☒

Structures within 1 mile  ☒

Total Structures

## Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 243

Source ID NA-0235

Mine Name

Easting 583219.684

Northing 4083894.03717

Chapter 1 Kayenta

Combined Score 180

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine ☒ QA

Structures within 200' ☒

Structures within 1/4 mile 0 ☒

Structures within 1 mile 0 ☒

Total Structures 0

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 0

4 Mile Wells Count 2

Total Wells 2

QA of Well Count Information ☒

QA officers

Brian Jordan

Date

Lara Beasley

Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter1

Combined Score

## Structures Count QA

Structures on Mine  QA ☒

Structures within 200'  ☒

Structures within 1/4 mile  ☒

Structures within 1 mile  ☒

Total Structures

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

Score QA ☒

## Surface Water QA

Mine Within One Mile  QA ☒

Overland of a Surface Water

Surface Water Score

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

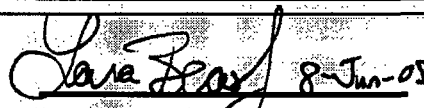
4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

  
Brian Jordan Date

  
Lara Beasley Date 8-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter1   
 Combined Score  ☒

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  ☒ QA  
 Overland of a Surface Water ☒  
 Surface Water Score

## Structures Count QA

Structures on Mine  ☒ QA  
 Structures within 200'  ☒  
 Structures within 1/4 mile  ☒  
 Structures within 1 mile  ☒  
 Total Structures

## Wells on Mine

Wells within 1/4 mile   
 Wells within 1 mile   
 4 Mile Wells Count   
 Total Wells

QA of Well Count  
Information ☒

QA officers

  
 Brian Jordan Date

  
 Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter

Combined Score

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  QA ☒

Overland of a Surface Water ☒

Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒

Structures within 200'  ☒

Structures within 1/4 mile  ☒

Structures within 1 mile  ☒

Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 80  
 Source ID NA-0706  
 Mine Name   
 Easting 598259.960339  
 Northing 4011536.50111  
 Chapter 1  
Tachee/Blue Gap

Combined Score 1160 Score QA ☒

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Yes QA ☒  
 Overland of a Surface Water ☒  
 Surface Water Score 160

## Structures Count QA

Structures on Mine ☒ QA  
 Structures within 200' ☒  
 Structures within 1/4 mile 6 ☒  
 Structures within 1 mile 33 ☒  
 Total Structures 39

## Wells on Mine

Wells within 1/4 mile ☐  
 Wells within 1 mile 0  
 4 Mile Wells Count 4  
 Total Wells 4  
 QA of Well Count  
Information ☒

QA officers

Brian Jordan Date 8-2-05

Lara Beasley Date 8-2-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 521  
 Source ID NA-0204  
 Mine Name Willie Water Claim  
 Easting 599410.951562  
 Northing 4087654.83458  
 Chapter 1 Kayenta  
 Combined Score 870

Score QA



Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒  
 Surface Water Score 160

## Structures Count QA

Structures on Mine QA ☒  
 Structures within 200' QA ☒  
 Structures within 1/4 mile 0 ☒  
 Structures within 1 mile 10 ☒  
 Total Structures 10

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 9

4 Mile Wells Count 6

Total Wells 15

QA of Well Count Information ☒

QA officers

Brian Jordan Date 8 Jun 2005

Lara Beasley Date 8 Jun 05



# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 81

Source ID NA-0702

Mine Name

Easting 601572.845249

Northing 4007799.18132

Chapter 1 Tselani/Cottonwood

Combined Score 260

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☐

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine ☒ QA

Structures within 200' ☒

Structures within 1/4 mile 0 ☒

Structures within 1 mile 1 ☒

Total Structures 1

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 1

4 Mile Wells Count 3

Total Wells 4

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 406  
 Source ID Blk029  
 Mine Name   
 Easting 601916.406164  
 Northing 4014181.74039  
 Chapter1 Black Mesa  
 Combined Score 470

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water Yes QA ☒  
 Surface Water Score 160

## Structures Count QA

Structures on Mine QA ☒  
 Structures within 200' QA ☒  
 Structures within 1/4 mile 0 ☒  
 Structures within 1 mile 13 ☒  
 Total Structures 13

## Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 0

4 Mile Wells Count 5

Total Wells 5

QA of Well Count  
Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

8-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 239

Source ID NA-0226

Mine Name Harvey Blackwater Claim  
(North)

Easting 603266.931391

Northing 4095460.4371

Chapter1 Kayenta

Combined Score 810

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine ☐ QA ☒

Structures within 200' 1 ☒

Structures within 1/4 mile 5 ☒

Structures within 1 mile 8 ☒

Total Structures 14

Wells on Mine ☐

Wells within 1/4 mile ☐

Wells within 1 mile 0

4 Mile Wells Count 4

Total Wells 4

QA of Well Count  
Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
Source ID   
Mine Name   
Easting   
Northing   
Chapter   
Combined Score

Score QA



Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features.



Confirm appropriate buffers have been  
drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water

Yes

QA



Surface Water Score

160

## Structures Count QA

Structures on Mine

QA



Structures within 200'



Structures within 1/4 mile

0



Structures within 1 mile

6



Total Structures

6

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

1

4 Mile Wells Count

7

Total Wells

8

QA of Well Count  
Information



QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 449  
 Source ID Swt047  
 Mine Name   
 Easting 637307.011983  
 Northing 4080781.18694  
 Chapter1 Red Mesa  
 Combined Score 620

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water Yes QA ☒  
 Surface Water Score 160

## Structures Count QA

Structures on Mine ☒ QA  
 Structures within 200' ☒  
 Structures within 1/4 mile 0 ☒  
 Structures within 1 mile 14 ☒  
 Total Structures 14

## Wells on Mine

Wells within 1/4 mile   
 Wells within 1 mile 1  
 4 Mile Wells Count 13  
 Total Wells 14  
 QA of Well Count  
Information ☒

QA officers

Brian Jordan Date 8-Jun-05

Lara Beasley Date 8-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 300

Source ID Zhealy Tso, N. Part Parcel  
1

Mine Name Zhealy Tso

Easting 637823.160574

Northing 4006096.13373

Chapter1 Chinle

Combined Score 350

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features.



Confirm appropriate buffers have been  
drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water

Yes

QA



Surface Water Score 160

## Structures Count QA

Structures on Mine

QA



Structures within 200'



Structures within 1/4 mile

0



Structures within 1 mile

8



Total Structures

8

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

0

4 Mile Wells Count

3

Total Wells

3

QA of Well Count  
Information



QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 188

Source ID NA-0509B

Mine Name

Easting 639455.674399

Northing 4080271.74257

Chapter1 Sweetwater

Combined Score 1390

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.



Confirm appropriate buffers have been drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile Overland of a Surface Water

Yes

QA



Surface Water Score 160

## Structures Count QA

Structures on Mine

QA



Structures within 200'



Structures within 1/4 mile

0



Structures within 1 mile

38



Total Structures

38

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

8

4 Mile Wells Count

7

Total Wells

15

QA of Well Count Information



QA officers

*Brian Jordan*

Brian Jordan Date

*Lara Beasley* 8-Jun-05

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 296  
Source ID Occurrence B  
Mine Name Occurrence B  
Easting 640679.409665  
Northing 4005195.42299  
Chapter1 Chinle  
Combined Score 4020

Score: QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒  
Surface Water Score 160

## Structures Count QA

Structures on Mine 1 QA ☒  
Structures within 200' 1 ☒  
Structures within 1/4 mile 2 ☒  
Structures within 1 mile 166 ☒  
Total Structures 170

## Wells on Mine

Wells within 1/4 mile  
Wells within 1 mile 0  
4 Mile Wells Count 4  
Total Wells 4

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

8-Jun-05



# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter1

Combined Score

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water  QA ☒

Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒

Structures within 200'  ☒

Structures within 1/4 mile  ☒

Structures within 1 mile  ☒

Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter

Combined Score

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water  QA ☒

Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒

Structures within 200'  QA ☒

Structures within 1/4 mile  QA ☒

Structures within 1 mile  QA ☒

Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

  
Brian Jordan

Date

  
Lara Beasley

Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter   
 Combined Score

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  QA ☒  
 Overland of a Surface Water ☒  
 Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒  
 Structures within 200'  ☒  
 Structures within 1/4 mile  ☒  
 Structures within 1 mile  ☒  
 Total Structures

## Wells on Mine

Wells within 1/4 mile   
 Wells within 1 mile   
 4 Mile Wells Count   
 Total Wells

QA of Well Count  
Information ☒

QA officers

  
 Brian Jordan Date

  
 Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter1

## Structures Count QA

Structures on Mine  ☒ QA  
 Structures within 200'  ☒  
 Structures within 1/4 mile  ☒  
 Structures within 1 mile  ☒  
 Total Structures

Combined Score

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water  ☒ QA  
 Surface Water Score

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count  
Information ☒

QA officers

*Brian Jordan*  
 Brian Jordan Date

*Lara Beasley* 8-Jun-05  
 Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID: 64

Source ID: NA-0929

Mine Name:

Easting: 652865.735082

Northing: 4086750.8387

Chapter 1: Teec Nos Pos

Combined Score: 830

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water: Yes ☒ QA ☒

Surface Water Score: 160

## Structures Count QA

Structures on Mine ☒ QA ☒

Structures within 200' ☒

Structures within 1/4 mile 3 ☒

Structures within 1 mile 14 ☒

Total Structures 17

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 1

4 Mile Wells Count 19

Total Wells 20

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

9-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 112  
Source ID NA-0229  
Mine Name Montezuma Creek Mine  
Easting 653856.747481  
Northing 4124927.61282  
Chapter1 Aneth  
Combined Score 670

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒  
Surface Water Score 160

## Structures Count QA

Structures on Mine QA ☒  
Structures within 200' ☒  
Structures within 1/4 mile 0 ☒  
Structures within 1 mile 6 ☒  
Total Structures 6

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 1

4 Mile Wells Count 34

Total Wells 35

QA of Well Count Information ☒

QA officers

Brian Jordan Date 9-Jun-05

Lara Beasley Date 9-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 292

Source ID NA-0900

Mine Name

Easting 653892.385442

Northing 4085334.22997

Chapter1 Teec Nos Pos

Combined Score 1370

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.

Confirm appropriate buffers have been drawn for evaluation criteria

## Surface Water QA

Mine Within One Mile Overland of a Surface Water

Yes

QA

Surface Water Score

160

## Structures Count QA

Structures on Mine

QA

Structures within 200'

Structures within 1/4 mile

8

Structures within 1 mile

31

Total Structures

39

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

0

4 Mile Wells Count

19

Total Wells

19

QA of Well Count Information

QA officers

Brian Jordan Date

Lara Beasley Date

9-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 72  
Source ID NA-0902, NA-0918  
Mine Name  
Easting 654134.808895  
Northing 4085123.10623  
Chapter1 Teec Nos Pos  
Combined Score 1630

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.

Confirm appropriate buffers have been drawn for evaluation criteria

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA  
Surface Water Score 160

## Structures Count QA

Structures on Mine QA  
Structures within 200  
Structures within 1/4 mile 11  
Structures within 1 mile 34  
Total Structures 45

## Wells on Mine

Wells within 1/4 mile  
Wells within 1 mile 1  
4 Mile Wells Count 19  
Total Wells 20

QA of Well Count Information

QA officers

Brian Jordan Date

Lara Beasley Date



# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
Source ID   
Mine Name   
Easting   
Northing   
Chapter1   
Combined Score

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water  QA ☒  
Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒  
Structures within 200'  ☒  
Structures within 1/4 mile  ☒  
Structures within 1 mile  ☒  
Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count  
Information ☒

QA officers

*Brian Jordan*

Brian Jordan Date

*Lara Beasley* 9-Jun-05

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 104

Source ID NA-0320

Mine Name

Easting 656784.792586

Northing 4046333.58911

Chapter1 Cove

Combined Score 490

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine QA ☒

Structures within 200' ☒

Structures within 1/4 mile 0 ☒

Structures within 1 mile 10 ☒

Total Structures 10

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 0

4 Mile Wells Count 13

Total Wells 13

QA of Well Count Information ☒

QA officers

*Brian Jordan* 9-Jun-05

Brian Jordan Date

*Lara Beasley* 9-Jun-05

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID:

Source ID:

Mine Name:

Easting:

Northing:

Chapter:

Combined Score:

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water:  QA ☒

Surface Water Score:

## Structures Count QA

Structures on Mine:  QA ☒

Structures within 200':  QA ☒

Structures within 1/4 mile:  QA ☒

Structures within 1 mile:  QA ☒

Total Structures:

## Wells on Mine

Wells within 1/4 mile:

Wells within 1 mile:

4 Mile Wells Count:

Total Wells:

QA of Well Count Information: ☒

QA officers

Brian Jordan Date

Lara Beasley Date

9-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 208

Source ID NA-0325

Mine Name Camp Mine

Easting 659207.00708

Northing 4039702.28327

Chapter 1 Round Rock

Combined Score 200

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine QA ☒

Structures within 200' ☒

Structures within 1/4 mile 0 ☒

Structures within 1 mile 0 ☒

Total Structures 0

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 0

4 Mile Wells Count 4

Total Wells 4

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 472

Source ID Cove Transfer Station

Mine Name Cove Transfer Station

Easting 659600.792771

Northing 4047695.4718

Chapter1 Cove

Combined Score 4540 Score QA ☒

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine QA ☒

Structures within 200' 2 ☒

Structures within 1/4 mile 22 ☒

Structures within 1 mile 127 ☒

Total Structures 151

Wells on Mine

Wells within 1/4 mile 2

Wells within 1 mile 0

4 Mile Wells Count 14

Total Wells 16

QA of Well Count Information ☒

QA officers

Brian Jordan 9-Jun-2005  
Brian Jordan Date

Lara Beasley 9-Jun-05  
Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter1

Combined Score

Score QA



Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water  QA ☒

Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒

Structures within 200'  ☒

Structures within 1/4 mile  ☒

Structures within 1 mile  ☒

Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

*Brian Jordan* 9-Jun-05

Brian Jordan Date

*Lara Beasley* 9-Jun-05

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID: 19

Source ID: NA-0808

Mine Name:

Easting: 673994.88365

Northing: 4068594.66499

Chapter: Red Valley

Combined Score: 1670

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water: Yes ☐ QA ☒

Surface Water Score: 160

## Structures Count QA

Structures on Mine: ☐ QA ☒

Structures within 200': 1 ☒

Structures within 1/4 mile: 10 ☒

Structures within 1 mile: 20 ☒

Total Structures: 31

## Wells on Mine

Wells within 1/4 mile: 2

Wells within 1 mile: 1

4 Mile Wells Count: 16

Total Wells: 19

QA of Well Count Information: ☒

QA officers

Brian Jordan Date

Lara Beasley Date

9-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 18

Source ID NA-0801

Mine Name

Easting 674867.169642

Northing 4067877.43473

Chapter1 Red Valley

Combined Score 820

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features.

Confirm appropriate buffers have been  
drawn for evaluation criteria

## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water

Yes

QA

Surface Water Score

160

## Structures Count QA

Structures on Mine

QA

Structures within 200'

Structures within 1/4 mile

1

Structures within 1 mile

17

Total Structures

18

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

2

4 Mile Wells Count

17

Total Wells

19

QA of Well Count  
Information

QA officers

Brian Jordan

Date

Lara Beasley

Date



# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 480

Source ID NA-0821

Mine Name Stripped Area 3 of VCA  
Plot 3

Easting 675339.453803

Northing 4064919.21884

Chapter1 Red Valley

Score QA

Combined Score 1480

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features.



Confirm appropriate buffers have been  
drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water

Yes

QA



Surface Water Score

160

## Structures Count QA

QA

Structures on Mine



Structures within 200'



Structures within 1/4 mile

0



Structures within 1 mile

46



Total Structures

46

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

5

4 Mile Wells Count

15

Total Wells

20

QA of Well Count  
Information



QA officers

*Brian Jordan* 9-Jan-05

Brian Jordan

Date

*Lara Beasley* 9-Jan-05

Lara Beasley

Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter

Combined Score

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water

QA

Surface Water Score

## Structures Count QA

Structures on Mine

QA

☒

Structures within 200'

☒

Structures within 1/4 mile

☒

Structures within 1 mile

☒

Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

 2-11-2005

Brian Jordan Date

 9-Jun-05

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
Source ID   
Mine Name   
Easting   
Northing   
Chapter

## Structures Count QA

Structures on Mine ☐ QA ☒  
Structures within 200' ☐ ☒  
Structures within 1/4 mile  ☒  
Structures within 1 mile  ☒  
Total Structures

Combined Score  ☒

Score QA ☒

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  QA ☒  
Overland of a Surface Water  ☒  
Surface Water Score

Wells on Mine   
Wells within 1/4 mile   
Wells within 1 mile   
4 Mile Wells Count   
Total Wells

QA of Well Count  
Information ☒

QA officers

  
Brian Jordan Date

 9-Jun-15  
Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 308

Source ID NMMK0124

Mine Name Section 13

Easting 718239.998607

Northing 3944063.16563

Chapter1 Church Rock

Combined Score 770

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.



Confirm appropriate buffers have been drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile Overland of a Surface Water

Yes

QA



Surface Water Score

160

## Structures Count QA

Structures on Mine

QA



Structures within 200'



Structures within 1/4 mile

0



Structures within 1 mile

27



Total Structures

27

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

0

4 Mile Wells Count

7

Total Wells

7

QA of Well Count Information



QA officers

Brian Jordan Date

Lara Beasley Date

9-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 307

Source ID NMMK0034, NMMK0318,  
NMMK0319

Mine Name Church Rock

Easting 721283.829011

Northing 3944667.56675

Chapter 1 Church Rock

Combined Score 1720

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile  
Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine 1 ☒

Structures within 200' ☒

Structures within 1/4 mile 2 ☒

Structures within 1 mile 48 ☒

Total Structures 51

Wells on Mine 1

Wells within 1/4 mile 1

Wells within 1 mile 0

4 Mile Wells Count 10

Total Wells 12

QA of Well Count  
Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

9-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 305  
Source ID NMMK0112  
Mine Name NE Church Rock No. 1  
Easting 726199.628836  
Northing 3949719.84773  
Chapter1 Coyote Canyon  
Combined Score 1850

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.



Confirm appropriate buffers have been drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile Overland of a Surface Water

Yes

QA



Surface Water Score

160

## Structures Count QA

QA

Structures on Mine

2



Structures within 200'



Structures within 1/4 mile

7



Structures within 1 mile

40



Total Structures

49

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

1

4 Mile Wells Count

9

Total Wells

10

QA of Well Count Information



QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID

Source ID

Mine Name

Easting

Northing

Chapter1

Combined Score

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  QA ☒

Overland of a Surface Water ☒

Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒

Structures within 200'  ☒

Structures within 1/4 mile  ☒

Structures within 1 mile  ☒

Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information ☒

QA officers

*Brian Jordan*

Brian Jordan Date

*Lara Beasley* 9-Jun-05

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 311

Source ID NMMK0341

Mine Name Westwater

Easting 726723.672861

Northing 3937368.29755

Chapter Iyanbito

Combined Score 290

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water

Yes

QA

☒

Surface Water Score

160

## Structures Count QA

Structures on Mine

QA

☒

Structures within 200'

☒

Structures within 1/4 mile

0

☒

Structures within 1 mile

0

☒

Total Structures

0

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

0

4 Mile Wells Count

13

Total Wells

13

QA of Well Count Information

☒

QA officers

*Brian Jordan* 9-Jun-05

Brian Jordan Date

*Lara Beasley* 9-Jun-05

Lara Beasley Date



# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 317  
Source ID NMMK0102  
Mine Name Mariano Lake  
Easting 746672.038466  
Northing 3937211.98751  
Chapter1 Mariano Lake  
Combined Score 1740

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.



Confirm appropriate buffers have been drawn for evaluation criteria



## Surface Water QA

Mine Within One Mile Overland of a Surface Water

Yes

QA



Surface Water Score

160

## Structures Count QA

Structures on Mine

QA



Structures within 200'



Structures within 1/4 mile

18



Structures within 1 mile

27



Total Structures

45

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

1

4 Mile Wells Count

9

Total Wells

10

QA of Well Count Information



QA officers

*Brian Jordan* 9-Jun-05

Brian Jordan Date

*Lara Beasley* 9-Jun-05

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 320  
Source ID NMMK0098  
Mine Name Mac No. 2  
Easting 749612.55141  
Northing 3935047.98005  
Chapter 1 Smith Lake  
Combined Score 440

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes ☒ QA ☒  
Surface Water Score 160

## Structures Count QA

Structures on Mine ☒ QA ☒  
Structures within 200' ☒  
Structures within 1/4 mile 0 ☒  
Structures within 1 mile 7 ☒  
Total Structures 7

## Wells on Mine

Wells within 1/4 mile ☐  
Wells within 1 mile 1  
4 Mile Wells Count 9  
Total Wells 10

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 315  
 Source ID NMMK0038  
 Mine Name Crownpoint  
 Easting 750541.58456  
 Northing 3956065.93409  
 Chapter1 Nahodishgish

## Structures Count QA

Structures on Mine 1 ☒ QA  
 Structures within 200'    ☒  
 Structures within 1/4 mile 0 ☒  
 Structures within 1 mile 25 ☒  
 Total Structures 26

Combined Score 1240 ☒ Score QA ☒

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Yes ☒ QA  
 Overland of a Surface Water    ☒  
 Surface Water Score 160

## Wells on Mine

Wells within 1/4 mile 2  
 Wells within 1 mile 0  
 4 Mile Wells Count 18  
 Total Wells 20  
 QA of Well Count  
Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date 9-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter   
 Combined Score

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water  QA ☒  
 Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒  
 Structures within 200'  ☒  
 Structures within 1/4 mile  ☒  
 Structures within 1 mile  ☒  
 Total Structures

Wells on Mine   
 Wells within 1/4 mile   
 Wells within 1 mile   
 4 Mile Wells Count   
 Total Wells

QA of Well Count Information ☒

QA officers

*Brian Jordan*  
 Brian Jordan Date

*Lara Beasley* 9-Jun-05  
 Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 326

Source ID NMMK0057

Mine Name Elkins

Easting 767262.631721

Northing 3924536.26252

Chapter Baca/Prewitt

Combined Score 840

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒

Surface Water Score 160

## Structures Count QA

Structures on Mine ☒ QA

Structures within 200' ☒

Structures within 1/4 mile 0 ☒

Structures within 1 mile 20 ☒

Total Structures 20

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 4

4 Mile Wells Count 8

Total Wells 12

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

9-Jan-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 329

Source ID NMMK0014, NMMK0073,  
NMMK0200

Mine Name Billy the Kid

Easting 769073.255219

Northing 3924992.2533

Chapter1 Baca/Prewitt

Combined Score 4040 ☒ Score QA

☒ Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features.

☒ Confirm appropriate buffers have been  
drawn for evaluation criteria

## Surface Water QA

Mine Within One Mile ☐ Yes ☒ QA  
Overland of a Surface Water ☒  
Surface Water Score 160

## Structures Count QA

Structures on Mine 13 ☒ QA  
Structures within 200' 1 ☒  
Structures within 1/4 mile 1 ☒  
Structures within 1 mile 28 ☒  
Total Structures 43

Wells on Mine  
Wells within 1/4 mile 1  
Wells within 1 mile 6  
4 Mile Wells Count 7  
Total Wells 14  
QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 302  
 Source ID NMMK0247  
 Mine Name Section 32, 33  
 Easting 770624.289185  
 Northing 3931522.85159  
 Chapter 1 Casamero Lake  
 Combined Score 700

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water

Yes

QA

☒

Surface Water Score

160

## Structures Count QA

Structures on Mine

QA

☒

Structures within 200'

☒

Structures within 1/4 mile

1

☒

Structures within 1 mile

15

☒

Total Structures

16

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

1

4 Mile Wells Count

14

Total Wells

15

QA of Well Count Information

☒

QA officers

Brian Jordan

Date

Lara Beasley

Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 344

Source ID NMMK0081

Mine Name Haystack

Easting 777590.394529

Northing 3915767.0307

Chapter1 Baca/Prewitt

Combined Score 2150

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.

Confirm appropriate buffers have been drawn for evaluation criteria.

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA

Surface Water Score 160

## Structures Count QA

Structures on Mine 1 QA

Structures within 200' 1 QA

Structures within 1/4 mile 16 QA

Structures within 1 mile 41 QA

Total Structures 58

## Wells on Mine

Wells within 1/4 mile

Wells within 1 mile 2

4 Mile Wells Count 7

Total Wells 9

QA of Well Count Information

QA officers

Brian Jordan Date

Lara Beasley Date

9-Jun-05



# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter1   
 Combined Score

Score QA



Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features.



Confirm appropriate buffers have been drawn for evaluation criteria.



## Surface Water QA

Mine Within One Mile  QA ☒  
 Overland of a Surface Water  ☒  
 Surface Water Score

## Structures Count QA

Structures on Mine  QA ☒  
 Structures within 200'  ☒  
 Structures within 1/4 mile  ☒  
 Structures within 1 mile  ☒  
 Total Structures

Wells on Mine

Wells within 1/4 mile

Wells within 1 mile

4 Mile Wells Count

Total Wells

QA of Well Count Information





☒

QA officers

*Brian Jordan* 9/10/2005

Brian Jordan Date

*Lara Beasley* 9/10/05

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 358  
 Source ID NMMK0051  
 Mine Name Dysart No. 1  
 Easting 783940.58644  
 Northing 3928016.8081  
 Chapter Off Navajo Nation  
 Combined Score 560

Score QA

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features. ☒

Confirm appropriate buffers have been  
drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Yes QA ☒  
 Overland of a Surface Water ☒  
 Surface Water Score 160

## Structures Count QA

Structures on Mine ☒ QA  
 Structures within 200' ☒  
 Structures within 1/4 mile 1 ☒  
 Structures within 1 mile 6 ☒  
 Total Structures 7

Wells on Mine 1  
 Wells within 1/4 mile ☐  
 Wells within 1 mile 1  
 4 Mile Wells Count 8  
 Total Wells 10

QA of Well Count  
Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date 9-Jun-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID   
 Source ID   
 Mine Name   
 Easting   
 Northing   
 Chapter:1   
 Combined Score

## Structures Count QA

Structures on Mine  ☒ QA  
 Structures within 200'  ☒  
 Structures within 1/4 mile  ☒  
 Structures within 1 mile  ☒  
 Total Structures

Score QA ☒

Confirm mine polygon locational  
information and documentation. Include  
review of polygon extents and mine  
features ☒  
 Confirm appropriate buffers have been  
drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile  QA  
 Overland of a Surface Water ☒  
 Surface Water Score

## Wells on Mine

Wells within 1/4 mile   
 Wells within 1 mile   
 4 Mile Wells Count   
 Total Wells

QA of Well Count  
Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date

9-Jan-05

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID: 353

Source ID: NMMK0220

Mine Name: Section 25

Easting: 786015.914091

Northing: 3923498.9791

Chapter: Off Navajo Nation

Combined Score: 1050

Score: QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria. ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water: Yes ☐ QA ☒

Surface Water Score: 160

## Structures Count QA

Structures on Mine: ☐ QA ☒

Structures within 200': ☐ QA ☒

Structures within 1/4 mile: 0 ☒

Structures within 1 mile: 30 ☒

Total Structures: 30

Wells on Mine: 1

Wells within 1/4 mile: ☐

Wells within 1 mile: 0

4 Mile Wells Count: 19

Total Wells: 20

QA of Well Count Information: ☒

QA officers

Brian Jordan Date

Lara Beasley Date

# Navajo AUM Nationwide Mine Ranking QA Form

Mine ID 470  
Source ID NMMK0349  
Mine Name Ambrosia Lake Mill  
Easting 787902.360947  
Northing 3921507.02931  
Chapter1 Off Navajo Nation  
Combined Score 7110

Score QA

Confirm mine polygon locational information and documentation. Include review of polygon extents and mine features. ☒

Confirm appropriate buffers have been drawn for evaluation criteria ☒

## Surface Water QA

Mine Within One Mile Overland of a Surface Water Yes QA ☒  
Surface Water Score 160

## Structures Count QA

Structures on Mine 29 ☒  
Structures within 200' 1 ☒  
Structures within 1/4 mile 3 ☒  
Structures within 1 mile 5 ☒  
Total Structures 38

Wells on Mine

Wells within 1/4 mile 4

Wells within 1 mile 2

4 Mile Wells Count 20

Total Wells 26

QA of Well Count Information ☒

QA officers

Brian Jordan Date

Lara Beasley Date



**DEPARTMENT OF THE ARMY**  
LOS ANGELES DISTRICT, CORPS OF ENGINEERS  
P.O. Box 532711  
Los Angeles, California 90053-2325

**SFUND R**

**2205486**

rec'd July 7

July 1, 2005  
LTR-05-110

Andrew Bain, Project Manager  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
SFD 8-2  
San Francisco, California 94105

**SUBJECT: QA REVIEW OF SCORING TABLES FOR THE NAVAJO NATION  
ABANDONED URANIUM MINE SCREENING ASSESSMENT STUDY**

Dear Andy,

Reference is made to the U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE) Interagency Agreement DW9695553-01-0

On June 8 and 9, 2005 Brian Jordan and Lara Beasley, USACE Project Delivery Team Quality Assurance (QA) Specialists, conducted a QA inspection of the TerraSpectra Geomatics Database for Task 4, Scoring Tables for the Navajo Nation Abandoned Uranium Mine Screening Assessment Study. They followed the NAUM Project QA Plan by completing a review of 66 mine locations. Their trip report and findings are attached to this letter.

A form documenting the review of each of the 66 sites chosen was filled out electronically and printed and signed by both Brian Jordan and Lara Beasley. The documentation of the field audits are submitted in this report.

The QA Specialists reported the findings to my office. They were impressed with both the quality and the quantity of the product. Documentation in the metadata was such that each piece of information can be verified and traced back to a source document. Only minor discrepancies were noted, and they were corrected immediately. The presentation of the data made tracking of the information very easy. The metadata was accomplished in a very professional manner, and the final product exceeded our expectations.

The USACE has completed their review of the product, and tentatively accepts the product as complete depending upon the final review comments received from the USEPA, Navajo Nation Environmental Protection Agency, and Navajo Abandoned Mine Lands Reclamation Program.

Please archive this document into the Superfund Records Center. The necessary information is included with the subject report.

Andrew Bain

Page 2 of 2

**QA REVIEW OF SCORING TABLES FOR THE NAVAJO NATION ABANDONED  
URANIUM MINE SCREENING ASSESSMENT STUDY**

July 1, 2005

If you should have any questions, or if I can assist in any way, please contact me at (213) 452-3997 or by e-mail at [glynn.r.alsup@spl.usace.army.mil](mailto:glynn.r.alsup@spl.usace.army.mil).

Sincerely,



Glynn R. Alsup  
Program Manager

cc: USACE-NN-0004 Project Files  
Brian Jordan, USACE  
Thad Fukushige, USACE  
Kathy Anderson, USACE

Attachments: a/s